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### NOTES ON EXPERIMENTAL MENINGITIS IN RABBITS

By S. E. Branham, Senior Bacteriologist, and R. D. LILLIE, Passed Assistant Surgeon, the National Institute of Health, United States Public Health Service

During January, 1931, a study of the possibility of producing meningococcus meningitis in rabbits was undertaken. Recently Zdrodowski and Voronine (1) reported the production of such meningitis in 90 per cent of their rabbits, using a technique almost identical with our own.

We have obtained this condition with certainty in a smaller proportion of rabbits injected. The most recently isolated strains available were used. Newly isolated meningococci varied so in virulence that a preliminary titration for virulence was done in mice, after the method of Murray (2). A strain with a minimum fatal dose for mice over 200,000,000 microorganisms seldom produced symptoms in rabbits.

Under light ether anæsthesia, rabbits weighing 1.5 to 2 kg were given intracisternal injections of 0.2 cc containing usually ½ billion cocci suspended in Ringer's solution of pH 7 to 7.4. The suspensions were made from 18-hour growth on "EDB/v" agar or rabbit's blood agar.

According to the symptoms that developed after these injections, the 49 rabbits given young living cultures fall into 4 general groups:

- (1) In 12 rabbits the symptoms resemble "forme (b)" of Zdrodowski and Voronine. The course of the disease was too rapid to follow easily. Rapid breathing and extreme prostration developed within a few hours after injection, and death followed in 12 to 18 hours, sometimes earlier.
- (2) In 4 rabbits the course of the disease was characterized by dyspnea and marked prostration, followed by marked rigidity of the neck. Bending the animal's neck slightly was likely to cause it to cry out. The rabbits became very sensitive, and even a touch caused tetanic spasms or convulsions. The course of the disease was afebrile and was fatal in 2 to 4 days. This clinical picture resembles that described by Zdrodowski and Voronine as "forme (a)."
- (3) This group of 7 rabbits showed slowly developing paralysis, usually beginning in the hind limbs. Respiratory difficulty was frequent. All these animals except one showed a definite fever

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(40.0° to 41.5°C.) on the second or third day after injection, usually coincidental with the onset of paralysis. In 5 rabbits paralysis was slight and recovery complete within 5 or 6 days after injection; in 2 paralysis involved practically the whole body and resulted in death. This group apparently corresponds to "forme (c)" of Zdrodowski and Voronine.

(4) Twenty-seven rabbits showed no definite symptoms. except three showed fever of 40° to 41.5°C, on the second day. A few

developed some stiffness but no definite paralysis.

All of the rabbits that died were carefully autopsied. Cerebrospinal fluid was withdrawn by cisternal puncture before the brain was exposed. The meninges were often adherent. Three or four showed an increased amount of cerebrospinal fluid. Significant suppoporation

Stained smears of the cisternal fluid and meningeal exudate showed single and paired Gram-negative cocsi free and in leucocytes in 11 of the rapidly fatal group, in all of the group showing characteristic symptoms of meningitis, and in 1 of the progressive paralysis group.

Cultures of Gram-negative cocci resembling the meningococcus were obtained from six-five times from cisternal fluid, twice from meninges, and twice from the heart. Their identity with the meningococcus could not be proved by any of the means available, and definitely successful animal passage was not accomplished. These bacteriological findings are at variance with those of Zdrodowski and given intracisternal injections of 0.2 cc containing usual sainorov

Histopathologic study was made of the brains of the 7 rabbits of group 1, 3 in group 2, and the 2 fatal cases of group 3.

Fibrinopurulent to purulent meningitis, generally more marked basally, in the cerebellopontine angles and around the mid-brain and thalamus, was the major significant histological finding. It was more marked in the animals showing spasticity and rigidity which came to autopsy 1 or 2 days after injection, and was replaced by round-cell infiltration, fibroblast proliferation, and encapsulating meningeal abscesses in 6 to 16 days, both in the spastic and paralytic groups.

Purulent infiltration of the sheaths of perforating vessels and of the margins of the brain substance, miliary intracerebral abscesses, meningeal and intracerebral hemorrhages, and ventricular exudates containing serum, blood, pus, and round cells, were less constant

The rabbits became very sensitive, and even a tom senibnih Of the rabbits presenting no symptoms after inoculation with living meningococci, one (G1) was killed 24 hours after injection and showed the "spontaneous" encephalitis of rabbits, with scattered foci and slight diffuse admixture of polymorphonuclear leucocytes in the predominantly lymphoid exudate in the pia, chorioid plexi, and ventricles. It appears probable that the relatively scanty polymorphonuclear response was assignable to the meningococcus.

Failure to recover meningococci, together with the findings in rabbit G1, led to the examination of the brains of several rabbits which had received cultures boiled for 5 minutes before they were injected. Most of these animals showed some fever the next morning, but were otherwise normal and lively. They were killed 24 hours after injection and examined as above indicated.

Cultures from these rabbits were negative, but smears from cisternal fluid showed cocci within the abundant polymorphonuclear leucocytes.

Histologically these three animals showed purulent meningitis similar to the foregoing. Fibrin, hemorrhage, marginal purulent infiltration of brain substance, and chorioid plexitis of variable grade were seen in two rabbits.

These findings suggested that intact living meningococci might not be necessary to produce clinical symptoms. Thirty-eight rabbits were injected intracisternally with 0.2cc of filtered meningococcus suspensions prepared as for the Schwartzman reaction (3), except that no preservative was added and Berkefeld N filters were used.

Twenty-six rabbits, or 68 per cent, showed symptoms of intoxication, and only 2 recovered. These rabbits, as well as those receiving the living virulent cultures, fell into three groups: (1) Sixteen dying in 5 to 18 hours, corresponding to the group 1 rabbits receiving living virulent cultures; (2) three corresponding to group 2 receiving living cultures, and showing general spasticity and rigidity of the neck; (3) seven showing progressive paralysis indistinguishable from that seen in the rabbits of the group 3 that were given living cultures. Cultures from the meninges of all of these animals were negative. Smears from cisternal fluid withdrawn before autopsy showed numbers of polymorphonuclear leucocytes and lymphocytes in all except those rabbits that had died within 6 to 8 hours. In these the cells were relatively few.

Histologically no meningeal exudate was present in these animals dying eight hours after injection, but purulent meningitis and chorioid plexitis appeared after 16 hours and were most marked in the animal surviving for 48 hours.

### SUMMARY

Clinical and histopathologic meningitis can be produced in rabbits by intracisternal injection of sufficiently virulent meningococci. A histopathological picture identical with the above, without clinical reaction, was found in animals which had received boiled suspensions of meningococci. A clinical and pathologic picture essentially identical to that produced by living meningococci was produced by inoculation with filtered suspensions.

These findings suggest that experimental meningitis in rabbits may not be purely an infection, and that intoxication may play an important part.

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- (1) Zdrodowski, P., and Voronine, E.: Ann. l'Inst. Pasteur, 1932, 48, (5), 617.
- (2) Murray, E. G. D.: Med. Res. Council, Special Rep., Series, No. 124, 1929.
- (3) Shwartzman, G.: J. Inf. Dis., 1929, 45, 232.

### REPORT OF COMMITTEE ON MILK

niler injection and examin

### CONFERENCE OF STATE AND PROVINCIAL HEALTH AUTHORITIES JUNE 2, 1932

The Committee on Milk of the Conference of State and Provincial Health Authorities has this year included the following subjects in its deliberations:

(1) Shall health authorities permit the use of the term "natural milk" to denote what has hitherto been termed "raw milk"?

(2) Shall health authorities approve the process of short time-high temperature pasteurization, and, if so, under what specifications?

(3) What requirements should be made in case a milk distributor desires to distribute two grades of milk, or both raw and pasteurized milk?

(4) Shall health authorities approve the practice of recombining surplus skimmed milk and cream, and, if so, under what restrictions?

(5) In what manner can State health and agricultural departments cooperate with each other in connection with the public health and economic phases of the milk problem?

(6) What practical methods can be devised and recommended to increase the percentage of pasteurized milk for sale in the smaller cities and towns of the country?

(1) Shall health authorities permit the use of the term "natural milk" to denote what has hitherto been termed "raw milk"?

The committee believes that the only truly natural milk for human babies is human milk. Nature intended cows' milk for calves, and cows' milk is used for babies only as the next best thing to human milk. Raw milk which has been cooled is not more natural than raw milk which has been heated or pasteurized. Both cooling and heating retard the growth of certain kinds of bacteria. Heating, however, also devitalizes all disease bacteria which can be conveyed through milk. This is not true of cooling. Therefore, while cooling is an important public health measure, heating is an even more important one.

For these reasons the committee considers dangerous to the public health any movement or policy the result of which would be to mislead the milk consumer into thinking that Grade A Raw Milk is more natural and therefore better for babies than Grade A Pasteurized Milk. Public health authorities should therefore not

permit the use of the word "natural" in the labeling of either raw or pasteurized milk or cream.

(2) Shall health authorities approve the process of short time-high temperature pasteurization, and, if so, under what specifications?

The process of short time-high temperature pasteurization has been studied and approved by the New York State Health Department and the Pennsylvania State Health Department. The Committee on Milk Sanitation of the engineering section of the American Public Health Association, the Committee on Milk Supply of the Conference of State Sanitary Engineers, and the Public Health Service have intensively studied the process and have outlined specifications for short time-high temperature pasteurization upon which the approval of health authorities should be based. Therefore, it is the opinion of the Committee on Milk of the Conference of State and Provincial Health Authorities that the process has been sufficiently intensively studied by expert milk sanitarians to justify its general approval by health authorities under the restrictions recommended in a memorandum of the United States Public Health Service dated February, 1932.

(3) What requirements should be made in case a milk distributor desires to distribute two grades of milk, or both raw and pasteurized milk?

The Public Health Service Milk Ordinance makes the following requirements: "If more than one grade of milk is sold by any distributor, separate receiving, pasteurizing, cooling, and bottling equipment shall be provided for each grade, and the equipment for each grade shall be located in separate buildings or in separate rooms of the same building."

The committee believes that these precautions are necessary in order to minimize the danger of lower grades of milk finding their way into Grade A bottles, or, in fact, of raw milk being bottled as pasteurized milk.

(4) Shall health authorities approve the practice of recombining surplus skimmed milk and cream, and, if so, under what restrictions?

The committee is informed by the State health officer of Delaware that it is the practice in certain cities for pasteurization plants to add cheap cream from one source to cheap surplus skimmed milk from another source, and then sell the mixture as sweet fluid milk in competition with ordinary sweet milk.

The committee believes that this practice should be forbidden by health authorities unless both skimmed milk and cream come from inspected sources which comply with the legal requirements for sweet milk and cream and unless the resulting product is so labeled as to show its true character. The committee bases this conclusion upon the belief that improperly produced milk and cream are not as

safe as properly produced milk and cream, even though the process of pasteurization is later applied in both cases.

(5) In what manner can State health and agricultural departments cooperate with each other in connection with the public health and economic phases of the milk problem?

The committee believes that the primary functions of State health

departments with reference to milk supplies should be-

(a) The encouragement of the adoption of the Public Health Service Milk Ordinance by municipal, county, and district health departments, and advisory assistance in the enforcement thereof.

(b) The rating at least once each year of the excellence of the public health supervision exercised by the various local health

units.

(c) The encouragement from the public health point of view of the optimum consumption of properly produced and properly pasteurized milk.

The committee further believes that the primary functions of State agricultural departments with reference to milk supplies should be—

(d) The education of the dairy farmer as to the most sanitary and economical method of breeding, feeding, and housing cattle;

(e) The education of the dairy industry as to the most sanitary and economical method of producing, transporting, processing, and delivering milk supplies; and

(f) The promotion from the economic point of view of the

dairy industry of optimum pasteurized milk consumption.

The committee believes that State health departments can effectively cooperate with State agricultural departments with reference to items (d) and (e) by making no requirements which are not justified from the public health point of view, and by interpreting justified requirements in a manner which will permit the most economic methods of compliance, consistent with effectiveness.

On the other hand, State agricultural departments can cooperate with State health departments with reference to item (a) by encouraging and educating the dairy industry, through county agents and other channels, to support the local adoption of the Public Health Service milk ordinance, and to comply with the ordinance after it has been adopted. The county agents can do much to insure that the dairy industry understands that compliance with the health department requirements is an important factor in promoting the welfare of the dairy industry, in that compliance with health department requirements increases the prestige and therefore the salability of the milk supply, as well as the amount consumed. Advice given by the county agents should, of course, be consistent with the instructions and advice given by the local milk inspector, unless the local milk inspector gives

improper advice, in which case the matter should be referred to the local health officer.

State health and agricultural departments can effectively combine forces with respect to items (c) and (f), namely, the encouragement of optimum pasteurized milk consumption from the public health and economic points of view. In encouraging milk consumption both health and agricultural agencies should insure that the educational approach to the consumer is consistent with sound public health advice.

(6) What practical methods can be devised and recommended to increase the percentage of pasteurized milk for sale in the smaller cities and towns of the country?

The committee believes that this is a very important problem, since the milk-borne outbreak reports of the Public Health Service and the American Child Health Association clearly indicate that the vast majority of milk-borne outbreaks of disease occur in small communities in connection with raw milk supplies. It is believed that the solution of this problem should be largely through educational means and that compulsory pasteurization ordinances should be passed only after the educational program has reached and convinced an unmistakable majority of the population. The local health officers of communities in which any considerable percentage of the market milk is still sold raw are urged to use an educational approach similar to that recommended in the Public Health Service Milk Sanitation Program under the chapter heading What Policy Should the Health Officer Adopt with Reference to Pasteurization and with Reference to Increasing to the Optimum the Per Capita Consumption of Milk?

Furthermore, the dairy industry, through the agency of such an organization as the National Dairy Council, could with advantage inaugurate a persistent radio program which would combine a campaign for adequate milk consumption with one for the encouragement of the use of pasteurized milk only. If the National Dairy Council or other dairy organization undertakes such a radio program, the United States Public Health Service and the various State and city health departments should assist in furnishing the necessary educational material.

### Earle G. Brown, Chairman

- W. F. Cogswell, M. D., member.
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- W. F. Draper, M. D., member.
- S. J. Crumbine, M. D., consultant.
- O. E. Reed, M. S., consultant.
- L. C. Frank, C. E., consultant.

### COURT DECISION RELATING TO PUBLIC HEALTH

Death of hospital interne from epidemic meningitis held compensable under workmen's compensation act.—(Illinois Supreme Court; Arquin v. Industrial Commission, 181 N. E. 613; decided June 24, 1932.) In an action under the workmen's compensation act, brought by a widow to recover compensation for the death of her husband, it appeared that the deceased was an interne in the contagious ward of the Cook County Hospital. From December 1 until December 6, 1928, the deceased was continuously engaged in the treatment of patients suffering from epidemic meningitis and made spinal punctures upon such patients. He became ill with the disease on December 6 and died two days later. The contention was made that epidemic meningitis was not an accidental injury for which compensation could be allowed, but the supreme court held that the deceased "died as a result of an accidental injury arising out of and in the course of his employment."

### DEATHS DURING WEEK ENDED JULY 23, 1932

Summary of information received by telegraph from industrial insurance companies for the week ended July 23, 1932, and corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

do not que tenentrano no recordo por en que entre de la	July 23, 1932	week, 1931
Policies in force	71, 774, 641	75, 023, 856
Number of death claims	11, 998	13, 054
Death claims per 1,000 policies in force, annual rate.	8.7	9. 1
Death claims per 1,000 policies, first 20 weeks of		
year, annual rate	10. 0	10. 3

Deaths 1 from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

(The rates published in this summary are based upon mid-year population estimates derived from the

ma Lamerta (201) di marriora nimi a data	Week ended July 23, 1932				Corres	ponding c, 1931	Death rate 1 for the first 20 weeks	
Queen of our parter of	Total deaths	Death rate 2	Deaths under 1 year	Infant mortali- ty rate 3	Death rate 2	Deaths under 1 year	1032	1931
Total (85 cities)	7, 559	10.8	593	149	10.2	585	11.8	12.7
Akron Albany * Atlanta * White. Colored Baltimere * White Colored Birmingham * White. Colored	34 31 71 39 32 203 142 61 70 23 37	6.7 12.4 13.1 10.9 17.5 12.9 11.1 21.2 13.2 10.0 18.4	7 1 2 1 17 17 11 6 8 2 6	87 20 19 15 29 60 50 96 83 33 162	6. 1 9. 3 16. 0 10. 5 26. 9 12. 0 11. 7 13. 1 9. 5 6. 9 13. 7	3 6 12 6 12 10 2 9	7.6 14.2 13.7 10.8 19.4 13.8 12.8 18.3 11.5 9.0 15.7	8,0 14,5 15,8 12,4 22,5 15,2 13,9 21,2 14,3 11,1 19,6

See footnotes at end of table.

Deaths 1 from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931—Continued

nd and design and a superior of the superior o	Wee	k ended	July 23,	1932	Corres	ponding , 1931	Death the fi	rate for rst 29 eks
City  (i) and Adapt in the city of the city in the cit	Total deaths	Death rate	Deaths under 1 year	Infant mortali- ty rate	Death rate	Deaths under 1 year	1982	1931
Beston.	194	12.9	22	66 36 34	11.6	19	14.8	16.1
BridgeportBuffalo	21 113	7.4	2	36	10.9	10	13.1	11.
Buffalo	26	11.9	7 0	01	20.9	1	13.1	12.
Camden	26	11.4		25	7.4		15.0	14.5
Canton	21	10.1	2 2	0 35 50 52 39 29	8.7 7.4 8.3		9.8	10.
Chicago .	671	10.0	53 6 9 7 9 8 1	. 52	0.4	65	10.3	11.
incinnati	180 183	20.4	. 6	39	14.3 10.1 12.7 12.0 11.3	6 20 2 13 12	15. 5 11. 3 14. 0	16.1
Cleveland Columbus	153	8,7	9	29	10.1	20	11.3	11.1
Columbus	88 73	15.4	T.	70	12.7	2	14.0	14.
Dallas 9	85	10, 5	2000	******	12.0	13	10.9	12.0
WhiteColored		12.3 19.3			11. 8	2021	15.1	18.
Dayton	81	12.8		86	15. 4 12. 0	1 6 7 1	12.2	12
Danver	63	11, 2	6 5 2 20	49	16. 1	7	14.8	14.6
Denver Des Moines	35	12.5	2	49 34	11 5	i	11.6	11.1
Detroit	35 218	6.6	20	36 29	6.6	19	8.0	8,1
Duluth	18	9.2	1	29	6.6 11.8 14.4 6.2 5.5 5.4	19 0 11	10.9	
El Paso	32	15, 6	5 0		14.4	11	14.0	16,1
Frie Svansville	18	7.9 14.3		0	6.2	1	11.9	10,1
Svansville	29 22	14.3	2110	100	0, 5	1	10, 4	11.1
fall River 17	21	10.0	100	27 89	5.4	100	12.4	12
		6.5		52	0, 1	100	7.9 10.5	7.4
ort Wayne ort Worth	21 41	9,1		02	10, 6		10.4	11.
Winte	21	11.3			8.6		9.0	10.1
Colored	10	19,6	Ô		8.6 17.3	2	13.4	10,1
rand Rapids	27	8.1	1	17	7.9	2 6 4 2 1	9.1	0.0
Colored	31 10 27 41	12 8	3	40				
Iouston •	77	12.4	7		10.1	6	11,1	11.1
White	49	10.7	5 2 8	******	10.1 7.8	4	10.3	10.
Colored	28	17.1	2		16.3	2	13, 4 13, 0	13,1
ndianapolis*	92	12.8	8	65	13,7	0	13.0	14.
ndianapolis* White. Colored crassy City. Cansas City, Kans.* White.	49 98 92 76 16	12.1 18.1	6 2 4 2	55 137 33 44 27	16.3 13.7 13.2 17.3 11.0	6 4 2 9 6 3 9 0 0 0 7 3 2	12,6 15,8	13.1
Colored	16	10,1	- 1	137	17. 8	0	10.8	17.
energ City Vana t	62 22 16	9.3		44	11,0		11.6 12.5 12.1	13,
White	10	8.4		97	6.4	0	19.1	12.0
Colored Cansas City, Mo Conxvilles	6	13.2	1 1 9 2 0	128	13.3	0	14 1	17.1
ansas City, Mo	6 95 24 15	11.0	9	102	11.5	7	12.5	14.0
noxville*	24	11.2	2	51	7.2	3	12.2	13.5
White	15	8.4 25.7	0	0	5.1	2	11.2	12.1
Colored ong Beach	9	25.7	2 0	530	17.6	1	17.3	18,1
ong Beach	29 270	10.2	0	May 3	8.9	3	12.5 12.2 11.2 17.3 9.1 10.7	10.
os Angeles	74	12.5	15 8 8 0 0	53 73	11.7	17	13.7	11.
White	60	12.0		99	10, 6	. 0	12.4	13,
Colored	14	15.3	0	83 0	17. 5	0	20.7	99
owell 7	14 21	15.3	0	0	10.9	3	20.7	93.7 13.7
vnn	11	5.6	0	0	10.7	0	11.1	10, 4
ynn. lemphis•	98 53 45	10 A	6		16.1	. 5	16.8	16.1
White	53	17.0	4	68	14.0	5	13. 2 22. 6	13,1
Colored	45	23.4	3	60	19.5		22,6	21, 7
lami .	24	17.0 23.4 11.5 11.1	6 4 2 2 2 2 0 13	66 68 60 56 78	10.7	1	12.3	12.1
White	18	11.1	2	78	14.6	1	11.0	11.2
Colored.	121	13, 0	0	62	14,4	10	16.2	16.3
liwaukee			16		11.8		10.7	12.0
linneapolis [ashville 4] White Colored	122	13.2	15	164	15.4	5 7 8 4	15, 8	17.4
White	71 45 26	20.6	-	00	13.0		14.1	14.9
Colored	24	31.7	6	98 374	21.9		19.4	23.0
ew Bedford *	20	9.2	2	- 58	11.6	May Try	11.8	13 1
ew Haven	40	12.0	2 0	3	13.8	8	1L.8 12.5	13. 1 12. 6 17. 5
ew Orleans	179	12.9 19.7 16.0	16	91	15.4	13	16.1	17.5
White	100	10.0	10	87	11.4	6 7	13.6	14.2
Colored	70	26.6		98	25, 2		22.0	25. 7

See footnotes at end of table.

Deaths 1 from all causes in certain large cities of the United States during the week ended July 23, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931—Continued

No

New

Mid

	Wee	k ended	July 23,	1932		ponding , 1931	Death the fit	rst 29
City	Total deaths	Death rate	Deaths under 1 year	Infant mortali- ty rate	Death rate	Deaths under 1 year	1932	1931
New York  Bronx Borough  Brooklyn Borough  Manbattan Borough Queens Borough Richmond Borough Newark, N. J Oakland Oklahoma City Omaha Paterson Peoria Philadelphis Pittsburgh Portland, Oreg Providence Richmond *  White Colored Rochester St. Louis St. Paul Sait Lake City * San Antonio San Diego San Francisco Schenectady Seattle Somerville Somerville South Bend Spokane Springfield, Mass Syracuse Tacoma Tampa *  White Colored Toledo Trenton Utics Washington, D. C.*  White Colored Colored Toledo Trenton Utics Washington, D. C.*  White Colored Waterbury Wilmington, Del.' Worcester Youngstown	477	8 9 6 7 7 7 6 6 14 0 0 14 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 55 6 0 4 8 3 7 0 0 1 5 8 6 2 2 2 8 6 2 2 4 1 1 1 4 2 4 4 1 2 4 5 3 3 4 2 2 0 6 6 6 1 1 8 7 1 1 3 1 3	27 26 39 46 25 38 46 22 38 43 73 73 72 81 113 55 73 73 73 73 73 73 73 73 73 73 73 73 73	9.3 6.7 8.6 13.6 9.6 9.8 11.8 12.6 11.1 11.0 17.0 17.7 6.6 10.0 11.1 11.0 11.0 11.0 11.0 11.0	81 95 32 4 1 1 5 2 3 5 5 2 8 8 8 6 5 4 1 1 2 8 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 1 8. 2 10. 3 17. 0 10. 6 14. 2 11. 3 13. 2 11. 3 13. 2 11. 3 12. 6 10. 4 11. 7 12. 5 10. 6 11. 8 11. 7 12. 4 11. 7 12. 4 11. 7 12. 4 11. 7 12. 4 11. 7 12. 4 11. 7 12. 6 13. 2 14. 1 15. 7 16. 8 17. 8 18. 9 18. 9 1	11. 8. 8. 11. 18. 18. 17. 7. 14. 12. 10. 11. 11. 12. 12. 12. 12. 12. 12. 12. 12

<sup>Deaths of nonresidents are included. Stillbirths are excluded.
These rates represent annual rates per 1,000 population, as estimated for 1932 and 1931 by the arithmetical method.
Deaths under 1 year of age per 1,000 estimated live births. Cities left blank are not in the registration area for births.
Deaths for 81 cities.
Deaths for week ended Friday.
For the cities for which deaths are shown by color, the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Fort Worth, 16; Houston, 27; Indianapolis, 12; Kansas City, Kans. 19; Knovville, 16; Louisville, 16; Memphis, 38; Miami, 23; Nashville, 28; New Orleans, 29; Richmond, 29; Tampa, 21; and Washington, D. C., 27.
Population Apr. 1, 1939; decreased 1930 to 1930, no estimate made.</sup> 

### PREVALENCE OF DISEASE

Comes of contact commiss ashir also we are supported by telegrapholic states would activate to the contact of t

major migriff : 1, to the site appears.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

### UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

### Reports for Weeks Ended July 30, 1932, and August 1, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931

nd matti	Diph	theria	Infle	enza	Me	asles	Mening meni	rococcui ngitis
Division and State	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931		Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931
New England States: Maine New Hampshire	1	3		- 1	22	11	0	10 TO
Vermont	2				7	1	0	
Mamachusetts	37	25		2	147	93	1	6.0
Rhode Island	1 3	5	1	1	7 34	35	0	mo T
Middle Atlantic States:	AME OF		PV S	1000	- 03	40	000	ANGELL
New Yerk		60	14	14	445	389	3	Wast Of
New Jersey	15	12 42	1	******	141	65	0	MATE ?
Pennsylvania  East North Central States:	31	42		*******	184	214		100
Ohio	24	27		3	87	263	1	ALVE T
Indiana	26	13	10	7	7	14	8	100
Illinois.	26	54	16	133	73	200	2	1102
Michigan Wisconsin	16	22 12	12	8	293	62 83	1	MIN
West North Central States:	CONTRACTOR OF THE PARTY OF THE		(A) 1 TA	100	***	00	1000	129,779.3
Minnesota.		3	4	2	17	17	2	coul !
Iowa Missouri	6 12	1	2		3	5	0	Part Co
North Dakota	5	1		******	13	10	2000	305.
South Dakota		i				1	0	TO SEC.
Nebraska	3	2		*****	4	3	0	2
Kansas outh Atlantic States:	6	5	******		16	6	0	A. 15/92
Delaware	V3.17.00	2	523.27(2)	1000	1000	3	. 0	payer.
Maryland 1	6	12		1	7	19	0	200
District of Columbia	9	9	2		2	0	0	200
Virginia	7	3			37		de la la	
West Virginia North Carolina	22	17	26	6	79	59	5	Their
South Carolina	8	6	74	47	24	29	Well by	THE PARTY OF
Georgia 3	8	4	10	0		7	0	Mari .
Florida		6			2	51	0	

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931—Continued

	Dipl	htheria	Infl	uenza	Me	asles	Mening	rocoeeu ngitis
Division and State	Week ended July 30 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1031	Week ended July 30, 1932	Week ended Aug. 1 1931
East South Central States:			Date:					3/4/3
Kentucky	8 3	1	2	2	9	42	0	
Tennessee	19	7	2	2	2	9	1	1390
Mississippi West South Central States:	7	14					0	
Arkansas		1	- 2	100	100	5	0	The street
Louisiana Oklahoma 4	13	15	1 7	4	31	*******	0	
Oklahoma 4	17	12 6	38	9 5	5	1	0	500
Texas <sup>3</sup>	36	2000	38		0	6	1.	27540
Montans	1 3				56	22	0	
Idaho	3	1				2	0	
Colorado	6			******	3 2	3 23	0	**
New Mexico	. 9	2	*******		î	40	1	nno.
New Mexico.	9 2	2	2	*******	*******	4	0	April 1
Utah 1. Pacific States:	*******	1		7	2	6	0	-
Washington	289	JIS 1	C 100 5	SE 130	8	14	0	all
Washington OregonCalifornia		*******	7	8	14	13	0	100
California	26	45	12	8	54	90	2	
Total	491	485	274	264	1, 995	1, 898	37	6
Division and State	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. 1, 1031	Week ended July 30, 1932	Week ended Aug. 1 1931
ew England States:			227				3.34	
Maine New Hampshire	1 0 0 1 1	1 0 25 8 87	5		0 0 0	0 0 3 0 0	8	10 100
Vermont	0	0	6 2	0	0	3	0 0	
Massachusetts	1	25	105	81	0	0		
	1	8	19	8 7	0	0	1 1	
Iddle Atlantic States: New York New Jersey Pennsylvania But North Central States:	10000	0/	19	1	0	0	0,903	
New York	6 2	433	122	108	4	2	31	
New Jersey	19	16	116	75	0	0	30	1
st North Central States:	10	1	110	10	0	0	30	1
Onio	5	1	96	92	0	17	56	3
IndianaIllinois	5 0 10	0 15 13 11	96 20 73 75 12	18	3 14	19	28	1 2
Michigan	2	13	75	66	1		11	TED
	4	11	12	66 16	0	6	0	
Wisconsin	11.00	(1)(0)(1)	-	-		1335	1	
est North Central States:			22 10	20	1	11	1	111
est North Central States: Minnesota	3	10	101		2	1	40	. 8
Wisconsinest North Central States: Minnesota Iowa Misconri	3 3 0		20	13				
Wisconsin est North Central States: Minnesota Iowa Missouri North Dakota	0		20 2	13	. 9	13		
wisconsin. set North Central States: Minnesota. Iowa. Missouri. North Dakota. South Dakota.	0 1 0		20 2 1	13 6 1 13	3	13	3	
wisconsin est North Central States: Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas	0	10 1 2 0 0 0 0	29 2 1 1 1 13	13 6 1 13 19	0 4 2 9 2 3 3 2	13	3 1 19	1
wisconsin. set North Central States: Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas uth Atlantic States:	0 0 0 1	1 2 0 0 0 0	29 2 1 1 1 13	6 1 13 19	COLUMN TO THE	13 1 4 21	19	3
wisconsin. set North Central States: Minnesota Iowa. Missouri. North Dakota. South Dakota. Nebraska. Kansas. uth Atlantic States: Delaware. Maryland 3.	0 0 0 1	1 2 0 0 0 0	29 2 1 1 1 13	6 1 13 19	COLUMN TO THE	13 1 4 21	19	1
wisconsin. set North Central States: Minnesota Iowa. Missouri North Dakota. South Dakota. Nebraska. Kansas. uth Atlantic States: Delaware. Maryland' District of Columbia.	0 0 0 1	1 2 0 0 0	29 2 1 1 1 13	1 13	COLUMN TO THE	13 1	19	2
wisconsin. set North Central States: Minnesota. Iowa. Missouri. North Dakota. South Dakota. Nebraska. Kansas. uth Atlantic States: Delaware. Maryland ' District of Columbia. Vigrinia.	0 0 0 1	1 2 0 0 0 0 0	29 2 1 1 13 0 16 7	6 1 13 19 2 17 4	COLUMN TO THE	13 1 4 21 0 0 0	19	2
wisconsin. set North Central States: Minnesota. Iowa. Missouri. North Dakota. South Dakota. Nebraska. Kansas. sth Atlantic States: Delaware. Maryland ' District of Columbia. Virginia.	0 0 0 1	1 2 0 0 0 0 0	29 2 1 1 13 0 16 7	6 1 13 19 2 17 4	COLUMN TO THE	13 1 4 21 0 0 0	19	2
w isconsin- set North Central States: Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas uth Atlantic States: Delaware Maryland District of Columbia Virginia West Virginia North Carolina South Carolina South Carolina South Carolina	0 0 0 1	1 2 0 0 0 0 0	29 2 1 1 13 0 16 7 11 4 35	6 1 13 19 2 17 4	COLUMN TO THE	13 1 4 21 0 0 0	19	2
wisconsin set North Central States: Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas ath Atlantic States: Delaware Maryland District of Columbia Virginia West Virginia North Carolina V	0 0	1 2 0 0 0 0	29 2 1 1 13 0 16 7	6 1 13 19 2 17	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13 1 4 21	3 1 19 3 23 4 85 50 89 86 77 5	2

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Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 30, 1932, and August 1, 1931—Continued

	Pollomyelitis		Scarlet fever		Sma	llpox	Typhoid fever	
Division and state	Week ended July 30, 1932	Week ended Aug. 1, 1631	Week ended July 30, 1932	Week ended Aug. 1, 1931	Week ended July 30, 1932	Week ended Aug. I, 1001	Week ended July 30, 1932	Week ended Aug. 1, 1931
East South Central States: Kentucky	Paragraphy Latery	0	20	21		0	108	
Tennessee	1000	1	20	-	3	3	141	13 80 58
Alabama 3			7	12	ő		20	- AS
Mississippl	THE R. P.	1		14	9	7	39	55
West South Central States:		OUT TO		311			WOOD TEN	
Arkansas	2	0		6	4	. 11	29	48
	-		1		0	0	71	26
	0	0.07		- 4	0	11-0	48	10
Oklahoma 4	. 0	1	93	14	1		40	76 38 15
Texas 1	8	2	23	. 15		1	10	10
Mountain States:	40000	0.783949		-			7	Maria A.
Montana	0	1	2	2	4	0	1 54	3
Idabo	0	0	1	3	0	3	6	
Wyoming	0	0	2	2	0	2	0	1
Colorado		1	8	0	0	7	5	
New Mexico	0	1	3	0	0	1	16	0
Arizona	0	0	1	0	2	0	. 2	5
Utah 3	0	0	0	1	0	0	1	0
Pacific States:	HARRIST !	CIELT	100		10.000	REPORT TO SERVICE	2916 214	12 × 14 1
Washington	1	0	14	5	5	5	4	4
Oregon	1	0	6	2	4	8	3	
California	6	3	39	42	9	7	10	16
Total	83	598	1, 012	878	94	187	1, 179	912

### SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Mala- ria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
June, 1933 Arkansas Idaho Kansas Louislana Montana Nevada Oklahoma I Oregon South Dakota Texas Virginia Washington Wisconstin	3 1 2 1 5 3 6	20 67 5 22 18 17 83 34 44	45 28 14 1 31 62 20 87 535 5	80 3 695 45	2 13 632 34 370 179 257 598 25	211 41 20 4 103	1 0 2 3 0 0 4 0 1 12 2 14 6	9 5 54 33 24 4 34 31 71 73 63 229	11 4 36 6 33 1 50 28 5	66 11 22 100 11 46 81 81

<sup>1</sup> Exclusive of Oklahoma City and Tulsa.

New York City only.
 Week ended Friday.
 Typhus fever, week ended July 30, 1932, 17 cases: 2 cases in North Carolina, 1 case in South Carolina, 1 case in Gorgia, 5 cases in Alabama, and 8 cases in Texas.
 Figures for 1932 are exclusive of Oklahoma City and Tulsa and for 1931 are exclusive of Tulsa enly.

Anthrax:		Rocky Mountain spotted or tick fever-Con.	. 00
Arkansas	2	Nevada	
Patuliem:	1313	Oregon	
Washington	2	South Dakota	
Chicken pox:	177/83	Virginia	
Arkansas	14	Scables:	1
Idaho.		Montana	
Kansas		Oregon	No.
Louisiana		Septic sore throat:	<b>1000</b>
Montana		Louisiana	2.10
Nevada	13	Montana	
Oklahoma 1		Oklahoma 1	
Oregon		Oregon.	
South Dakota	1000	Silicosis:	0.0
Virginia		Montana	
		Tetanus:	THE S
Washington		Kansas	
Wisconsin	1, 030		
		LouisianaOklahoma <sup>1</sup>	
Louisiana	3		
Dysentery:	2	South Dakota	1
Louisians		Tick paralysis: Montana	STATE.
Oklahotna 1		THE RESERVE OF THE PROPERTY OF	
Oregon.	1	Trachoma:	
Dysentery and diarrnea:		Arkansas	
Virginia	1,566	Oklahoma 1	1
German measles:	PER L	South Dakota	
Kansas		Trench mouth:	
Montana		Oklahoma 1	
Washington	12	Trichinosis:	
Hookworm disease:		South Dakota	No.
Arkansas	1	Tularæmia: Louislana	
Louisiana	28		I but
Impetigo contagiosa:		Montana	3
Montana	9	Oregon	- 3
Oklahoma 1	3	Wisconsin	1
Oregon	19	Typhus fever:	
Leprosy:		Virginia	2
Louisiana	1	Undulant fever:	
Lethargic encephalitis:		Kansas	10
Louisiana	2	Louisiana	4
Wisconsin	2	Montana	3
Mumps:		South Dakota	1
Arkansas	20	Virginia	2
Idaho	25	Washington	1
Kansas	154	Wisconsin	3
Louisiana	4	Vincent's angine	MIN.
Montana	30	Kansas	10
Oklahoma 1	14	Nevada	8
Oregon	65	Oklahoma 1	
South Dakota	18	Oregon	
Washington	58	Whooping cough:	19680
Wisconsin	382	Arkansas	56
Ophthalmia neonatorum:	- 6	Idaho	1
Oklahoma 1	1	Kansas	400
Paratyphoid fever:	4 (43)	Louisiana	36
Kansag	1	Montana	52
Louisiana	3	Nevada	20
Toxas	2	Oklahome 1	56
Virginia	2	Oregon	73
Rabies in animals:	-		40
Louisiana	70	South Dakota	
	10	Virginia	
Washington.	1	Washington	48
Rocky Mountain spotted or tick fever:	A 12.	Wisconsin	1, 079
Idabo	9		
Montana	27		

1 Exclusive of Oklahoma City and Tulsa.

### GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 97 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 33,980,000. The estimated population of the 90 cities reporting deaths is more than 32,420,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended July 23, 1932, and July 25, 1931

	1932	1931	Estimated expectancy
Cases reported	47:	1339	Page 1
Diphtheria:	1880	The same of the same of	140809
46 States	490	487	******
97 cities	176	215	407
Measles:		11-2.29	AUTOMOBILE V
45 States	3, 282	2, 411	**********
97 cities	934	854	*******
Meningococcus meningitis:	40	59	100-1112-1100
46 States	17	29	***********
Poliomyelitis:	1000	29	
46 States	48	307	Barrell
Scarlet fever:	40	201	***********
46 States	1,086	951	1501 2018
97 cities	400	228	343
smallpox:	2121 00		C 1955
46 States	102	204	
97 cities	7	19	26
Typhoid fever:			別の自己のお客
46 States	1, 247	758	**********
97 cities	138	101	03
Deaths reported	200		THE PARTY OF THE P
Drawn reports	Weaking COVE		State of the state of the
influenza and pneumonia:	Sheet to a		D. M. E. P. T. A.
90 cities	319	278	SALES .
Smellpox;	1000		A LO
90 cities	0	0	

### City reports for week ended July 23, 1932

The "estimated expectancy" given for diphtheria, pollomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded, and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible but no year earlier than 1923 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

		Diphth	eria ·	Influe	nza	245		plus
Division, State, and city	Chieken pox, cases reported	Cases, estimated expect- ancy	Cases reported	Cases reported	Deaths reported	Measles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths reported
New England Maine: Portland. New Hampshire: Concord. Manchester. Nashus	2 0 0	1 0 1	0		0 0 0	0 0 0	0	

### City reports for week ended July 23, 1932-Continued

II - MARKENE M	alidana	Diph	theria	Influ	enza	erecori s la realmi	the cutto	251577
Division, State, and city	Chicken pox, cases reported	Cases, estimated expect- ancy	Cases reported	Cases reported	Deaths reported	Measles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths reported
NEW ENGLAND—con.	Column and			1131	Carring Selection		1	
Vermont:	100			AD STATE		1120		
Barre	1	0	0		0	0	0	0
Burlington Massachusetts:	0	0	- 0	***********				100
Boston.	12	17	9		0	53	81	18
Fall River	0	1	0	1	1 0	15	0	
Springfield Worcester Rhode Island:	8	Ô	i		Ö	4	Ö	i
Rhode Island:	0	I Page			0	0	0	Sim rist
Pawtucket Providence	3	1 3	0 2			6	0	0
Connecticut:	340 70	- Inner	and the same			C	100000	100 PM
Bridgeport Hartford	1 0	1	0	1 2	0	15	0 2	12:00
New Haven	4	0	. 0	- 2	0	0	3	1
MIDDLE ATLANTIC		10 /		19-5		In the		
New York:		1.			No Tree	10000	300	19.11
Ruffalo	9	6	0		0	9	0	8
New York Rochester	87	124	43	3	6 0	218	107	8 71 5 0
Syracuse New Jersey: Camden Newark	2 9	2	0	**********	0	. 0	1	0
New Jersey:		2	1	NC-8190	0	0	0	10 114
Newark	9	8	i	**********	0	51	42	3 3
I renion.	0	0	0	1	0		0	3
Pennsylvania: Philadelphia	16	30	1	1	2	8	21	
Pittsburgh	12	10	2 0	2	0	20	2	11
Reading	2	2	0		0	8	0	market and
BAST NORTH CENTRAL		A STATE OF THE STA		74				
Ohio: Cineinnati		1000			77 PES			493
Cleveland	20	13	3	1	ó	21	8	3
Columbus	0	2	8		0	15	0	1
ToledoIndiana:	7	2	0	*********	0	17	0	
Fort Wayne	0	1	3		0	0	0	0
Indianapolis South Bend	1 0	0	0		0	1 0	16	3 2
Terre Haute	0	0	0		0	1	0	î
Illinois:	2000		Name and A		A PROPERTY	72/16		
Chicago	1	54	14		0	65	0	20
Michigan:	17/430 133	45000				1000		ment to us
Detroit	18	24	5 0		0	240	5 3	10
Grand Rapids	6	0	0		0	3	West 2	ō
Wisconsin: Kenosha	1	0	10.1-10	sediend)	0	21	0	0
Madison	3	0	1 1	*********		6	1	
Milwaukee Racine	15	7 0	2 0	1	1	29	4	
Superior	1	0	o o	*********	0	1 0	3 0	0
WEST NORTH CENTRAL							100	
Minnesota:	1000	A16.1577	Marie B	Maria Salah	40000	STATE OF LAND	Service de	
Duluth	4	0	0		0	0	0	0
Minneapolis	13	0 8 2	2 0		0	7 0	2 7	
St. Paul	•	2	0	********	1	0		3
Des Moines	0	0	0	*****		0 1 0	0	
Sioux City Waterloo	8	0	1 1			1	0	********
Missouri:	PAUL LOSS	No. of Contract of	2			STATE OF THE PARTY	10.00	
Kansas City	0 8	1 0	2 0		0	8	3 0	2
St. Joseph St. Louis	8	15	6	******	0	8 0 2	4	SHOTTER
North Dakota:	127 127 7.4	100	Shripe I	MONEY!	Par Alt	MC 190 1053	100	The same
Fargo	0	0	0	*********	0	1 0	0	0

### City reports for week ended July 23, 1932-Continued

	11/11/11	Diph	theria	Infl	ienta	- VE 3	E. h. Par	Pneu-
Division, State, and city	Chicken pox, cases reported	Cases, estimated expect- ancy	Cases reported	Cases reported	Deaths reported	Measles, cases re- ported	Mumps, cases re- ported	monia, deaths reported
WEST NORTH CEN-								
South Dakota:				100 C			300	388 1.1
Aberdeen	4 0	0	0	********		0	0	
Nebraska:	1.59	0	. 0			0	0	
Omaha Kansas:	0	0	3		0	2	0	
Topeka Wichita	1 0	ő	0	********	0	11 0	3 0	The state of
SOUTH ATLANTIC		3000				District Land	2.00	1047
Delaware: Wilmington				1				m 15 00.75
Maryland:	0	1	0		0	0	0	TARY ST
Maryland: Baltimere	8 0	8	2		0	0	27	9
Cumberland Frederick District of Columbia:	0	0	0		0	0	0	1000
District of Columbia: Washington	7		4	1	1	36.2000		SESTAN
Virginia:	Contract of the	V2 (1905)		2000			0	PH435.
Lynchburg Norfolk	0	0	0	*****	0	0	0	. 0
Richmond	1	1	0		0	0 0	0	
Richmond Ronnoke West Virginia: Charleston	0	0	0		0	0	0	1
Charleston	0.	0	0		0	0	0	. 0
Wheeling.	0 3	0	2		0	1 6	0	
North Carolina:	A 100 TO	0	DALLEY TO		ASSESSED NO.		MARKET TO SERVICE	ountle 3
Charleston Huntington Wheeling North Carolina: Raleigh Wilmington Winston-Salem South Carolina: Charleston Columbia	1 3 0	0	0		0	0 3	0	i
Charleston	. 0	0	0	14	0	0	0	1
Columbia	0	0	0		0	1	0	3
Atlanta Brunswick Savannah	0	2 0	1 0 2	3	0	0 0	0	1
florida:	7.300	Alle ales	WE KENTY!		SES YES	North Street	ATTIVO DE	
MiamiTampa	0	3	1		0	0	. 0	
AST SOUTH CENTRAL	100	average and			196	12.00		
Centucky:			2011	3/2 .54	90000	196	Sec. 12.	
Covington	1	0 -	0		0	0	0	•
Tennessee; Memphis	. 8	0	. 0	18-11-5	DOE:	Die a Control	3.16.4	STORY OF THE
Nashville	0	0	0		0	0	0	
labama: Birmingham	0		1	Salar Line	311020551	0		TO STATE
Mobile	0	0 0	2		0	0	0 0	ő
EST SOUTH CENTRAL				THE STATE OF		300	1	
rkansas:	( to		19-30	10000	198	Sur.	0000	
Fort Smith	0	0	1			0	0 -	
Little Rock	. 0	0	0		0	0	0	2
New Orleans	0	5 0	0	1	1 0	0	0	
klahoma: Muskogee	2000000		33.5	198-11		1000	27 5 7 6 6	introduce -
Oklahoma City	0	0	0		1	0	0 -	9
Tulsa	0	1	1.	*********	*******	5	0 .	
Dallas.	0	2	8	1	1	2	0	
Fort Worth	0	0 0 2 1	1 -		1	0 0 5	0 0	3
Houston	0	2	0 1		2 0	5	0	-
San Antonio	0	1'	4.	********	0	01.	0	State 1

133121°-32-2

1700 City reports for week ended July 23, 1932-Continued

4811			Dip	phtheria			Influ	enza		1.26		
Division, State, a city	na p	Chicken ox, cases reported	Cases, estimate expect ancy	ed Cn	ises orted		Cases ported	Death	B po	asles, es re- rted	Mumps, cases re- ported	Pneu- monia, deaths reported
MOUNTAIN					1					ž	1.50	Columb
Montana: Billings Great Falls Helena Missoula		0 0 8	100	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0				0 0 0	1 0 0 0	0 0 0	
Idaho: Boise		1	1-154-4/1	0	0		200		0	0	0	
Colorado: Denver Pueblo		7 5		5	4				0	9	10	1000
New Mexico: Albuquerque.		0			0				0	0	0	n de la constant
Arizona: Phoenix		0			0				0	0	0	Marketini Marketini
Utah: Salt Lake City		13			0				0	3	2	0
Nevada: Reno		0		)	0				0	0	0	0
Washington: Seattle		18			0					1	20	
Spokane Tacoma Oregon: Salem		0		1	0			Sales Ver	Ō	8 3	0	ī
California: Los Angeles		36		1000	29		10		0	21	0	
Sacramento San Francisco.		6	17		0 4			200 kg 54	0	0 9	20 1 1	11 0 4
	Scar	rlet fever		Smallp	ox				phoid	fever	7 1996	) Saw
Division, State, and city	Case ecti- mate expec- ancy	d re-	Cases, esti- mated expect- ancy	Cases re- ported	re	-	Tuber culo- sis, deaths re- ported	P. P. Cont.	Cases re- ported	re-	re-	Theatha
NEW ENGLAND												0435
Maine: Portland New Hampshire:	1500	0 3	0	0		0	0	0	1		0 1	21
Manchester Nashua		0 0	0 0	0		000	0 1 0	0	0		0 0	17
Vermont: Barre Burlington Massachusetts:		0 0	0	0		0	0	0	0		0 0 2	3 3
Boston	21	38 4 3 6	0 0	0		0000	4 0 1 2	1 0 0	0		1 60 0 0 0 6	194 22 34
Rhode Island: Pawtucket Providence	1	0	0	0	St	0	0	0	0	306	0 0	16 54
Bridgeport Hartford New Haven	1 1	0 4	0 0	0	700	000	1 0 1	0	0	36.73	0 3 5 0 20	21 40 40
MIDDLE ATLANTIC	2 1	100				1					20	144/3
New York: Buffalo New York Rochester Syracuse	8 42 3 2	13 35 18 12	0 0 0	0 0 0		0000	5 98 4 0	0 15 0	0 16 0		25 128 7 2 25	112 1, 225 64 38

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### City reports for week ended July 23, 1932-Continued

11200	Searle	t fever		Smallpo	Œ.	Tuber-	Ту	phold f	ever	Whoop-	Circ. S
Division, State, and city	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Te-	Deaths re- ported	culo- sis, deaths re-	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	ing cough, cases re- ported	Deaths all causes
MIDDLE ATLAN-										Vsoglij Vsoglij	100
New Jersey: Camden Newark Trenton	1 6	3 3 1	0 0	0 0	0 0	2 0 4	0 0	1 1 0	0 0	0 12 11	
Pennsylvania: Philadelphia Pittsburgh Reading	24 12 0	27 14 3	0 0	0	0	10 6 0	1 0	1 3 0	0 0	47 81 11	11
EAST NORTH CEN- TRAL		VCV.			63			1 1 2 6		and the services of the servic	Minore Edi
Cincinnati Cleveland Columbus Toledo	6 11 2 3	5 20 5 5	1 1 1 1	0 0	0	7 16 2 4	1 2 0 1	3 2 2 3	1 0 1 1	10 53 24 21	1
Indiana: Fort Wayne Indianapolis South Bend Terre Haute	1 2 0 1	0 1 0 1	0 3 0 0	0 0 0	0 0	8 1 1	0 0	0 5 0 0	0 0 0	0 12 2 0	
Ilinois: Chicago Springfield	48 0	37 1	1 0	0	0	32	6	1 2	1 0	87	6
Michigan: Detroit Fiint Grand Rapids.	31 5 4	32 1 1	1 0 0	0 0	0	19 1	0 0	1 1 0	1 0	150 21 27	2
Wisconsin: Kenosha Madison. Milwaukee Racine Superior	1 1 8 1 1	0 1 7 0 0	0 0 1 0 0	0 0 0 0	0 0 0	3 0 0	0 0 1 0	0 0 0 0 1	0 0 0	6 15 70 0 1	1
WEST NORTH CEN-	E. 1									10.00	
Minnesota: Duluth Minneapolis St. Paul	4 10 6	0 5 4	0 0	000	0 0	1 3 3	0 0	0 1 0	0 0	0 9 31	
Owa: Des Moines Sioux City Waterloo	1 0 1	0 1 0	0 1 0	0 0	******		0 0	0 0		1 0	
Kansas City St. Joseph St. Louis	2 0 8	18 0 2	0 1 1	0 0	0	6 1 17	1 0 3	5 2 8	. 0	56 4 14	
Fargo	0 1	0	0	0	. 0	1	0	0	0	0	
Aberdeen Sioux Falls Sebraska:	0	0	0	0			0	0		0	120
Omaha	1	1	0	1	0	1	0	0	1	3	173
Topeka Wichita	0	0	0	0	0	0	0	0	0	33	Capital States
BOUTH ATLANTIC	1	13 19	100	130	23	1	1000	100	1 3	1000	Salar
elaware: Wilmington Iaryland:	1	4	0	0	0	0	0	0	0	1100	COLUMN TO SERVICE STATE OF THE
Baltimore Cumberland Frederick	0 0	0	0 0	0 0	000	17 0 0	0 0	0	0	0	

### City reports for week ended July 23, 1932 - Continued

	Scarle	t fever		Smallpo	X	Tuber-		rphoid i	ever	Whoop-	0.3
Division, State, and city	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	culo- sis, deaths re-	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported	ing cough, cases re- ported	Deaths, all causes
SOUTH ATLANTIC— continued										1255 M	P4   12
Virginia:	7.78	193	1	4.76	5-06	43.00		333	7.75	L. Sellen	(T. N. 5 PS)
Lynehburg	0 0 2 1	1	0 0	0	0	3 6	1	1	0	33	13
Richmond	2	5	0	0	0	0	1	0	0	3	41 57
Roanoke West Virginia:	1	0	0	0	. 0	1	1	0	0	0	7
Charleston	0	1 0	0	0	0	1	0	0	0	0	16
Huntington Wheeling	0	0	0	0	0	0	0	2	0	0 5	******
North Carolina:	A CONTRACTOR	17,250	ED-471924	U.S. 239		17,75,5633	STATES.	HISTORY	70-5990		17
Raleigh	0	0	0	0	0	2 0	1	0	1	3	25 16 19
Winston-Salem	0	0	1	0	- 0	0	0	0	0	20	16
South Carolina: Charleston	0	0	100	STATE OF		123-21-6	1 44	PER T	745, 800	SHEED	NAME OF STREET
Columbia	0	. 0	0	0	0	. š	1 2	1	0	0	26 19
Georgia:		38.90			MINES.	61337	A. V. K. St.		EL AVAILABLE	MINIST	BY LOUIS .
Brunswick	0	1 0	0	0	0	3	3 0 1	6	0	3	71
Savannab Florida:	0	0	0	0	0	2	1	5	0	0	32
Miami	1	0	0	0	0	3 1	0	0	0	0	enel 34
Tampa	0	1	0	0	0	1	0	0	0	0	24 24
RAST SOUTH CEN- TRAL											Marini Mal
Kentucky:	1000		ALC: YA			1000			1000	Contract	C. Side
Covington	0		0				0				
Lexington Tennessee:		0		0	0	0		2	1	2	15
Memphis	1	0	1	0	0	5	8	4	0	8	98 71
Nashville	0	0	0	0	0	2	153	2	1	3	71
Birmingham Mobile	0	3	0	0	0	7	4	4	0	10	70
Montgomery	0	0	0	0	0	0.	1 2	1 0	0	1 0	14
WEST SOUTH CENTRAL							Sen				rom112
	(5.3)		1336	1	MOV	UP (1988)			Marie I	the west	成了
Arkansas: Fort Smith	0		0		100	1000	0	0	1000	1	
Little Rock	Ö	0	0	0	. 0	2	0	0	1	0	
Louisiana: New Orleans	4	3	0	0	0	13	8	1 28	1	960	100
New Orleans Shreveport	0	0	Ö	0	0	4	2	1	. 3	0 2	179
Oklahoma: Muskogee	0	1	1135	0	2000	157	0000	0	2.00	0	
Muskogee Oklahoma	0000	0.0954		23420		1		MX 578		12 1190	
CityTulsa	1 1	2 0	1	0	0	3	3	0 2	1	18	42
Texas:	0.00	California .	-				DATE OF THE PARTY OF	1000	10000	100000	
Dallas	1 0	3	0	0	0	4	2	4	0	2	73 41
Galveston	Ö	0	0 0 0 1	0	0	0	0	o	0	0	19
Houston	1	3 0 0 3 3	0	0	0	6	2 0 0 1	3 2	0	0	19 77 61
MOUNTAIN									100	0	61
Montana:	10 13	5,500	F128	2049	100	ESST-1	143	1	1200	2004	
Billings	0	0	0	0	0	0	0	0	0	0	100 7
Billings Great Falls Helena Missoula	0 1 0 0	0 0	0 1 0 1	0	0	0 0 0	0 0	0 0	0 0	0 0 0	9
Missoula	0	0	1	0	0	0	0	0	0	0	;
daho:	0	0	0	0	0	0	0	0	0	1	1915
Boise	10113.0	27.00	0/1-/11/0/15	2 40	2017/4/201	21.55-250	33402354	047,238	A2010-25	18590	
Pueblo	4	8	0	0	0	3	0	0	0	23	10

<sup>&</sup>lt;sup>1</sup> Includes 24 nonresidents.

### City reports for week ended July 23, 1932-Continued

Cardinal C	Scarle	fever	15 45	Smallp	ox		Tuber		yphoid i	fever	Whoop	1
Division, State, and city	Cases, esti- mated expect- aney	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Te	200	eulo- sis, deaths re- ported	Cases esti- mated	Cases, re- ported	re-	ing cough, cases re- ported	Deaths, all causes
MOUNTAIN-con.						E			A CO		The state of	
New Mexico: Albuquerque	0	0	0	0		0	1	0	0	0	0	10
Arizona: Phoenix	0	0	0	0	100	0	1	0	0	0	1	hardoki.
Utah: Salt Lake City-	133167	1	1	0		0	0	0	0	0	11	- 111
Nevada: Reno	0	0	0	0	100	0	0	. 0	1 - Date of	0	0	1
PACIFIC		73	1.3		100						TOTAL TOTAL	Spirit S
Washington:	6.736		12.53	116.3	130			9.0		0304	1/20(1/2)	half a s
Spokane Tacema	3 0 1	0 0 3	2 2	1 0		0	0	0 0	1 0	0	1 0	31
Oregon:		MONA.	0.00	10.00	130	"		Mary Co	1		Contract	t poi
SalemCalifornia:	0	0	1	0	*****			0			12	
Los Angeles Sacramento San Francisco.	12 1 6	14 1 2	0 0	0 0	3.55	0 0	34 2 14	3 2 1	12	0	96 5 16	270 30 141
		Cas	es Der	LEIS C	ases	De	aths (	Cases	Deaths	mated	C (MOREON	Deaths
	161			813						expect- ancy	120151	
NEW ENGLAN	ND									expect- ancy	en dy e	
Massachusetts: Boston	ND		0	0 0	0		0	2 0	0	expect- ancy	0	
Massachusetts: Boston Connecticut:			52 363	100	23.0			100.00	No. of Contract of	ancy 1	A COLUMN	
Massachusetts: Boston			52 363	100	23.0			100.00	No. of Contract of	ancy 1	A COLUMN	
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAN New York: New York * Pennsylvania: Philadelphia			1 1	0	0		0	0	0	ancy 1	1	
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: Pennsylvania:	NTAC		1	0	0		0	0	0	ancy 1 0	0	
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAN New York: New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN	NTAC		1 1 0	0 0 0 1	0 0 0		0	0 1 0	0	1 0 8 1 1	1 5 0	
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAN New York: New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapolis	NTAC		1 1 1 0 7	0 0 0 1	0 0 0		0 0 0 0	0 1 0	0 0 0	1 0 8 1 1 0 0	1 5 0	
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapolis Ultinois: Chicago Springfield	NTAC		1 1 0	0 0 0 1	0 0 0		0	0 1 0	0	1 0 8 1 1	1 5 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapolis Illinois: Chicago Springfield Michigan: Detroit	NTAC		1 1 1 0	0 0 0 1 4 4 1	0 0 0		0 0 0	0 1 0	0 0 0	1 0 8 1 1 0 1 1	1 5 0	0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0
Massachusetts: Boston. Connecticut: Hartford. MIDDLE ATLAY New York: New York: Pennsylvania: Philadelphia: Pittsburgh. EAST NORTH CEN Indiana: Indianapolis Illinois: Chicago. Springfield. Michigan: Detroit. Wisconsin: Racine.	NTEC	71.5	1 1 1 0 7 2 0	0 0 0 1 4 1 0	0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	1 0 8 1 1 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0	1 5 0	000000000000000000000000000000000000000
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: New York: Pennsylvania: Philadelphia. Pittsburgh EAST NORTH CEN Indiana; Indianapolis Illinois: Chicago Springfield Michigan: Detroit Wisconsin: Racine WEST NORTH CEN	NTEC		1 1 1 0 7 2 0	0 0 0 1 1 4 1 0 2 2	0 0 0 0 0 1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 8 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	0 1 5 0 0 0 0	0
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapolis Illinois: Chicago Springfield Misconsin: Racine West NORTH CEN Minnesota: Minnesota: Minnesota: Minnesota:	NTIC STRAL		1 1 1 0 7 2 0 1 1	0 0 0 1 1 4 1 0 2 1 1	0 0 0 0 0 1 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 5 0 0 0 0 0 2 0	0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapelis Indiana Chicago Springfield Michigan: Detroit Wisconsin: Racine West NORTH CEN Minneapolis St. Paul St. Paul	STRAL	7 10 300	1 1 1 0 7 2 0 1 1	0 0 0 1 1 4 1 0 2 1 1 0 0 0	0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 5 0 0 0 0 0 2 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Massachusetts: Boston Connecticut: Hartford MIDDLE ATLAY New York: New York: New York: Pennsylvania: Philadelphia Pittsburgh EAST NORTH CEN Indiana: Indianapolis Illinois: Chicago Springfield Michigan: Detroit. Wisconsin: Racine WEST NORTH CEN Minneapolis St. Paul	STRAL	7 10 300	1 1 1 0 7 2 0 1 1	0 0 0 1 1 4 1 0 2 1 1	0 0 0 0 0 1 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 5 0 0 0 0 0 2 0	

<sup>&</sup>lt;sup>3</sup> Nonresidents.
<sup>3</sup> Typhus fever, 4 cases: 1 case at New York City, N. Y.; 2 cases at Savannah, Ga.; and 1 case at Miami, Fla.

### City reports for week ended July 23, 1932-Continued

Thinks	Menin	goeoccus ingitis	Letha	rgic en-	Pel	lagra	Poliom	yelitis (i paralysis	infantile i)
Division, State, and city	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases esti- mated expect- ancy	Cases	Deaths
SOUTH ATLANTIC					5-16			OL-THE	2 417
Maryland: Baltimore	1	1	de .	0.5	0	0	1	0	100
		1000	1	0			(C. 15 VE-15)	(90, 6) NA	Alle titl
Washington		0	1	1	1	1	0	0	C load
Virginia: Lynchburg	0	0	0	0	0	0	0	1	
West Virginia: Charleston	0	100	0	0	0	0	0	1	237
South Carolina:		0		0	0	1000	0	1	1
Charleston	0	0	0	0	3	0	0	1	(155)
ColumbiaGeorgia:	0	0	0	0	0	. 1	0	0	ob/197
Brunswick	0	0	0	0	1	0	0	0	
Savannah 1	0	0	0	0	1	0	0	0	M. 2
Tampa	. 0	0	1	1	0	0	0	0	
EAST SOUTH CENTRAL		10						100	0112
Tennessee:		32/13	201				071162	Sea Openius	945003
Memphis	0	0	0	0	1	0	0	0	
Alabama: Birmingham	0	0	0	0	0	0	0	1	
Mobile	ő	Ö	ő	0	i	0	0	o	
WEST SOUTH CENTRAL					- 100				
Arkansas;				1					0,00
Fort Smith		0	0	0	0	0	0	1	
New Orleans	1	0	. 0	0	0	1	0	0	
Shreveport	0	0	0	0	1	1	0	0	
Houston	0	1	0	0	0	0	0	0	35/10
San Antonio	0	0	0	0	0	0	. 0	25.14	
MOUNTAIN		756.20	25 . 3				1000	n Tue	Section 1
New Mexico:	2007	100	F 749	100	NE TO	26.86.9	300	13 300	0.00
Albuquerque	0	0	0	0	0	1	0	. 0	E LI
PACIFIC	**	723		10.00	House !	But a	bazin	1 7/20	4.33
California:	G 7878		145	200	Other	25	WAR	7854	15000
San Francisco	0	1	. 0	0	. 0	0	0	1	NZ4

<sup>&</sup>lt;sup>1</sup> Typhus fever, 4 cases: 1 case at New York City, N. Y.; 2 cases at Savannah, Ga and 1 case at Miami, Fla.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended July 23, 1932, compared with those for a like period ended July 25, 1931. The population figures used in computing the rates are estimated mid-year populations for 1931 and 1932, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 34,000,000. The 91 cities reporting deaths have more than 32,400,000 estimated population.

NAEVSEVAP

Summary of weekly reports from cities, June 19 to July 23, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931

### DIPHTHERIA CASE RATES

100 C				Albert I				CALCAS .		
		ing you			Week	ended—				
control year or was a series	June 25, 1932	June 27, 1931	July 2, 1932	July 4, 1981	July 9, 1932	July 11, 1931	July 16, 1932	July 18, 1931	July 23, 1932	July 25, 1931
98 citles	1 38	54	144	147	4 31	43	1 32	42	1 27	83
New England Middle Atlantie East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	38 30 61 27 7 25 60 17	67 47 72 42 45 23 68 9 51	204 27 25 50 28 12 89 26 34	96 53 49 33 312 12 27 11 9 51	146 28 23 40 31 16 106 17 14 13	00 50 41 31 18 23 61 17 41	60 28 25 10 51 11 31 7 12 13 75 17 14 25	65 37 50 31 24 29 47 61 51	29 21 30 30 22 7 25 46 34 63	50 34 39 33 28 12 24 35
		MEA	SLES (	CASE I	RATES	111		V.		
98 cities	8 517	568	* 371	1 384	* 241	316	4 240	181	7 144	133
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	*1,001 376 972 104 294 7 12 96 543 343	438 511 920 297 591 593 47 479 363	630 345 641 57 3 154 0 53 431 227	402 284 708 140 1311 352 24 11 215 149	* 561 188 400 74 104 * 0 33 267 14 156	351 311 527 103 259 117 27 122 182	395 214 419 10 86 11 43 7 6 11 24 155 14 135	317 144 316 61 107 117 17 122 123	247 143 230 55 29 1 0 23 112 80	900 111 214 34 83 106 14 174 125
	80	ARLE	T FEV	ER CA	SE RA	TES				
98 cities	2 172	163	1 136	105	1 84	79	4 88	70	1 63	. 53
New England Middle Atlantic East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	1 343 211- 208 61 90 7 19 53 155 70	238 195 240 78 93 65 30 96 57	280 168 167 63 58 29 36 52 53	188 135 122 31 4 55 47 41 33 36 47	* 202 82 110 45 43 10 10 86 14 50	142 89 90 44 49 83 34 52 49	165 98 91 10 72 11 41 7 37 12 28 9 14 60	149 68 106 42 34 23 34 26 12	156 57 06 50 53 7 25 43 78 38	111 56 60 29 38 6 44 0
Annual of the state of		SMAL	LPOX	CASE	RATES	anical in	d istan	Server S	COLD T	unit O
98 cities	12	8	12	16	*1	2	•1	3	11	3
New England Middle Atlantie East North Central West North Central South Atlantie East South Central West South Central Mountain Pacific	*0 0 1 6 0 7 12 0 0	0 1 5 19 12 18 30 70	0 0 1 2 10 6 3 17	0 0 8 10 10 23 24 110	*0 0 0 2 0 76 0 43	2 0 1 4 4 6 10 0 8	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 4 0 0 7 0	0 0 0 2 0 10 0 0	0 0 2 10 0 6 0

See footnotes at end of table.

Summary of weekly reports from cities, June 19 to July 23, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931—Continued

TYPHOID	FEVER	CASE	RATES

	-	0.0			Week e	nded-				
elect post ribet classical entreprises and the control of the cont	June 25, 1982	June 27, 1931	July 2, 1932	July 4, 1931	July 9, 1932	July 11, 1981	July 16, 1932	July 18, 1931	July 23, 1932	July 25, 1981
96 cities	1 10	10	1 13	110	* 12	14	• 13	13	1 21	1
New England Middle Atlantic Bast North Central West North Central South Atlantic Rast South Central West South Central West South Central West South Central Pac'ic	11	0 4 6 10 16 35 54 52 14	5 4 10 6 7 42 75 56 9 4	10 5 3 10 3 10 41 71 13 36 4	* 5 5 10 11 24 269 46 17	2 8 5 19 28 59 81 35 6	7 8 13 10 15 11 18 7 69 12 38 9 14 10	12 8 8 8 2 47 35 58 26 6	5 10 13 30 43 7 60 125 0 11	1: 6: 4: 1: 2:
	1	NFLUI	ENZA 1	DEATI	I RAT	ES				
91 cities	16	4	13	13	12	3	12	2	78	
New England Middle Atlantie East North Central West North Central South Atlantic East South Central West South Central Mountain Pacific	*3 7 3 9 6 77 13 9	226066702	0 4 4 0 32 13 0 0	0 1 1 1 9 34 19 10 10	*0 2 3 0 0 7 7 3 9	2 4 2 0 4 6 7 0	7 1 2 10 116 70 9	0 0 4 3 4 0 3 0	2 4 1 3 2 2 10 13 0	
	P	NEUM	ONIA	DEAT	H RAT	ES				
91 cities	2 56	67	* 53	1 64	1 50	50	* 46	47	1 49	44
New England Middle Atlantie East North Central West North Central South Atlantie East South Central West South Central Mountain Pacific	* 65 61 43 52 73 7 55 61 60 51	60 76 51 38 103 140 90 35 41	62 61 35 64 52 31 91 60 44	36 67 61 77 67 83 90 11 72 46	• 53 63 32 35 67 7 27 57 43 14 36	79 59 47 88 71 51 86 61 31	74 46 31 10 48 11 58 7 20 91 52 14 33	50 63 29 71 40 45 45 45 35	62 49 83 70 73 734 67 78 37	31 58 83 68 44 45 59 17 43

1 The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1932 and 1931, respectively.

2 Hartford, Conn., and Covington, Ky., not included.

3 Columbia, S. C., and Billings, Mont., not included.

4 Columbia, S. C., and Billings, Mont., not included.

5 St. Paul, Minn., Raleigh and Winston-Salem, N. C., Covington, Ky., New Orleans, La., and San Francisco, Calif., not included.

5 Covington, Ky., not included.

7 Covington, Ky., not included.

8 Hartford, Conn., not included.

8 Barre, Vt., not included.

8 St. Paul, Minn., not included.

8 St. Paul, Minn., not included.

8 Raleigh and Winston-Salem, N. C., not included.

8 New Orleans, La., not included.

8 Billings, Mont., not included.

8 San Francisco, Calif., not included.

### FOREIGN AND INSULAR

### CANADA

Quebec Province—Communicable diseases—Week ended July 16, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended July 16, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken por Diphtheria	31 21 3 1 40	Poliomyelitis Scarlet fever Tuberculosis Typhoid fever Whooping cough	10 40 72 31 62

### CUBA

Habana—Communicable diseases—Four weeks ended July 16, 1932.— During the four weeks ended July 16, 1932, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths	
Chicken pox. Diphtheria	1 2 11	1	Measles Scarlet fever	4 4 17 12	2	

### JAMAICA

Communicable diseases—Four weeks ended July 16, 1932.—During the four weeks ended July 16, 1932, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the island of Jamaica, outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities	
Cerebrospinal meningitis Chicken pox Diphtheria	2 1 2	12	Lethargic encephalitis Puerperal fever	36 4	2 1 1 67 42	

### PUERTO RICO

San Juan—Communicable diseases—Four weeks ended July 16, 1932.—During the four weeks ended July 16, 1932, cases of certain communicable diseases were reported in San Juan, P. R., as follows:

Disease	Cases	Disease	Cases
Chieken pox	3	Measles	20
Diphtheria	6	Mumps	3
Infuenza	18	Typhoid fever	1
Malaria	17	Whooping cough	4

### CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health Service, American of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

The second secon	G C					1 10			Wee	Week ended-	1				
Place	Feb. 6, 1992	Feb. 7- Mar. 6- Mar. 5, Apr. 2, 3	Mar. 6- Apr. 2, 1982	Apr. 3- 30, 1932		May, 1933	283			June, 1932	83	I CALL	7	July, 1982	22
ar at a second					7	11	a	28	•	=	18	23	2	•	16 23
China: Amoy	0						2		10 bi	20	-		92	9	
Canton	200		a	1				-	e4-	98	152	88	=82	282	50
Hankow Hong Kong	DOQUAG	-		8-		œ.					0	E BENEFIT STATE	3-32	111 82°88	200
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Calcutta Chittagong	BS.			350	13	39	32	23	28	28	85	32	38	93	

Madras  Rangean  Chandernagor  Chandernagor  Chandernagor  Chandernagor  Fondisherry  Pondisherry  Promyenh  Salgen and Cholen  Japan  Tokyo  Persis: Kohe  Tokyo  Persis: Capit Province  Capit Province	8522 88- 88	mm   N   -     88	on   1997   199	 10 44		100 000 ED	 	8		
Bangkok  S. S. Angora at Rangcon from Calcutta.  S. S. Nachada at Rangcon from Calcutta.  S. S. Shanghai Maru at Kobe from Shanghai  S. S. President Wilson an route to Manila from Honolutu  Via Shanghai and Hong Kong.			<b>~</b>					-		11 1111 11

Local mofficial reports included 159 deaths from cholers in Swatow, China, from June 16 to 36, 1932.
 Later information indicates that the case in San Pedro, Honduras, reported as cholers in the Public Health Reports, vo. 47, No. 32, p. 1670, was probably food polsoning.
 A suspected case.

CHOINER MACHE BRAINFOR TARRES MACH FAIR FRIGHT FAIR CHOIN

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS PEVER, AND YELLOW FEVER-Continued

CHOLERA—Continued

C indicates cases: D. deaths: P. present!

i	P P	Janu-	Febru-		March, 1932	82		April, 1922	25	034	May,	May, 1932		June, 1932	1982
	Der. 1981		ŽŽ	1-10	11-30	21-31	1-10	11-30	21-30	1-10	-	11-20	21-31	1-10	11-30
Indo-China (French) (see also table above):	C	26.0									8	8	12		
Cambodia '. Cochin-China '. Laoz'	DADADAD	2007	40400	onna		m-48		40001-	m 0m	Seas	- m = = = = = = = = = = = = = = = = = =	28-02	•	8578	2252
	a									+					
Reports incomplete.				PLAGUE											
										Week ended-	-pap				
Place		Jan. Feb. 6,	Feb. 7-7- Mar. 5,	Mar. 6-	Apr. 3- 30, 1932		May, 1932	23		June, 1932	33		Ju	July, 1932	
		250	1903	1982			14 21	88		=	81	a	64	9 16	8
Vrgentina: Cordoba Province 1.	00	-			61										
KOMITIO San Luis Province Selvin Conso	200								1 6	-	1				
Sritish East Africa (see also table below): Tanganyika	0	97		61						-					
Uganda	909	228	000	••	22	= -	0.00	99	122	88					
Canary Islands: Palma Island-Los Lanos	06	<b>a</b>					-		1	1					

Pingue-infected rats  Pingue-infected rats  Chins  Kwang Chow Wan  Shensi Province  Dutch East Indies:  Java  Tracal			∞ → ∞ ∞	C4	HIQ .			•	PO	9	•		
Java and Madura West Java. West Java. Ecuador (see table below). Egypt: Alexandria.	+04	141	2882	888	0. 1	8 44	£44 ∞-	£43 -u	88 84	1	-		
Beheirs. Beni Suef. Obserbish	00000			120	попо			04	-				5 2 2 3 3 3 3
Minjeh	0000		00						-				4 1 4 1
Hawall Territory: Hawall Island— Hamakus— Honokis.		86											100000
Plagua-infected rats  Kukalau-Plague-infected rats  Maui Island  Makawao !	DA						-						
Plague-infected rafs  Bassein	0000 25.4	<b>क</b> च	9,0 9,0 9,0 9,0 9,0 9,0 9,0 9,0 9,0 9,0	5, 197 219 219 24	200 au		256 250 250 250	822	(MC)			on-	
Bombay Pague-Infected rata	9	2000		228	n-g	ne s				6		100	

Incenting pague in the United States and its December.
 Incenting pague in the United States and its December.
 Incense of bubbonic plague were reported in Octoba Province.
 Incentification plague Aug. 1, 1932 was reported in Makawao District, Maul Island, Hawall Territory.
 I death from plague Aug. 1, 1932 was reported in Makawao District, Maul Island, Hawall Territory.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS PEVER, AND YELLOW FEVER-Continued

PLAGUE !-Continued

[C indicates cases; D, deaths; P, present]

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Plus	Zeb. 6.	Feb. 7-6, Mar. 5,	Mar.	Apr. 3-		May, 1932	1932			June, 1932	182			July, 1932	23
The second secon	1982				1	*	=	8	•	=======================================	18	a		6	91
India—Continued. Madras	Ü			-				18							
Madras Presidency Remoon	4000 1881	540	38 T	-84-	18	0.4	9-1	===	23.00			1200-	04		
Plague-infected rata. Indo-China (see table below). Iraq: Baghdad	A O	- 1 - 2		<b>6</b> 40		89		-		-		e -	0101	e4	
Madagasan (see table below). Morceco Peru (see table below). Senegal (see table below).	A 0 0		1 1											10	
	A 00	- 4	P	F .0			7				-		<b>69</b>		İI
United States: California—Les Angeles—Plague-infected rais. On vessel Sesanship Columbia, at Naples from Barcelous—Plague-infected rais.	DA I			9	04					-		64			

\*80 cases of plague with 15 deaths were reported in Ovamboland, Southwest Africa, up to Apr. 30, 1932. Antiplague measures have been taken. "An imported case.

Place	Janu- ary, 1932	Febru- ary, 1982	March, 1932	April, 1032	May, 1932	June, 1982	Place	Janu- ary, 1982	Pebru- ary, 1982	March, 1932	April, 1982	May. 1932	June,
ritish East Africa (see also table above): Kenya.	17	8	8	18	п	30	Peru	118	900				
rovince— Chimborato	*:	13		0	10		<b>10</b>	8					
do-Ohina D	-11	A	ь	00	24	1	Otureo	1 0		1	9	3-	
Province-Ambatolampy	R		83				Piura	1		1	•		
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\* Reports incomplete.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

### SMALLPOX

C indicates cases; D, deaths; P, preser

		12							Week	Week ended-					
Ples	45.0	i r M. a	Apr.	AP.	1	May, 1982	1983			June, 1932	932		5	July, 1982	
	1032	1982	1982		-	3	E .	8	•	=	22	8	*	9 16	8
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Algoria: Algiere									7	-	-	-			1
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Santos British Rast Africa: Tunganyika.	7000	100	Ъ		2	11			91						04
British South Africa: Northern Rhodesia. Southern Rhodesia.			•	1											#
Canada: British Columbis	3/6	17	0.0									1			
Manitoba.			•	1							6				
Ontario North Bay	000		•	•	1			R					11	-	
Quebec. Saskatehewan.			9	90	69	1	. 80	9		-		-01		60	-
Amoy	256	211			889	0	MMM	880					-		
Fochow Hankow	DOO	Total Control	1-Pro			4		Ь		d		4			
Hong Kong				38		0.0	-6	- 6	•	100	8-	-			1

Manchuria: Dairen 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			es table below).  : Aix-la-Chapelle C 1  stat (see table below).  Itian: and and Wales C 227 238  ondon and Great Towns C 189 203  es table below).	-	C 4.576 9,706	20000000000000000000000000000000000000	-8-00 -8-00
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	9		282			eegg	000

1 500 cases of smallpox with 15 deaths were reported in Honduras from July, 1931, to Feb, 16, 1932.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

SMALLPOX-Continued

indicates cases: D. deaths: P. press

	Jan.	Feb.	Mar.						Weel	Week ended-	-					
Place	F	Mar.	Apr.	3-80.	11000	May,	May, 1932	300		June, 1932	1932		10.0	July, 1932	32	
	1932	1932	1932	-	1	14	21	88	•	11	18	22	2	0	16 23	
India—Continued. Moulmein	D		7		9,31					*0						
Negapatam	1	-	1000					64							1	
Rangoon	291		900	260	80	8=	No.	94	04	2*	10-	00 P4	e 04			111
Vizagnpiam	DAD	gon	200	000	**								-			111
India (French): Karikal		•	10	a	24	*	-	4		61						1
Pondicherry Territory		*88	-88	282	200	NIOK	-88	7==			ce o		000			11
Indo-China (see also table below): Prompanh				117			•				•					
Saigon and Cholon.	DO	33	113	113	22	-100	<b>100</b>	10.13	es es	000	m 04	00	0101		C+ C+	111
Iraq: Baghdad			8:	2		-	2		7			-	1		-	•
Berta		- 64	22	34.	- 1			C4 -	- PO	••	N 64 -				11.	!!
Ivory Coast (see table below).											•			•		
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Nagasaki Osaka Prefecture 3.	COI			88	-2	-8	-	-	1	-	-					111
Talwan	2000	99	1	1		1										11
Mexico (see also table below): Chihushus.		•	-	-			-			10						
Duringo Jalleo (State)—Guadalajara Mexico City and surrounding territory	DOO		1 8	-65	00	-6		0		-		10	•			111
Montarrey	-		1			-		1								11

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1 284 cases of smallpox were reported in Osaka Prefecture, Japan, from Mar. 1 to May 28, 1632. 3 From Mar. 6 to June 11, 1962, 814 cases of smallpox with 11 deaths, were reported in Sierra Leone.

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

SMALLPOX-Continued

[C indicates cases; D, deaths; P, present]

			-		Pahr		- Charles		April, 1982			May, 1992	2002		Jun	June, 1982	
Place	1			1932	ary, 1932		1982	1-10	11-20	21-30	1-10	11-20		21-31	1-10	11-20	8
old Coast			0	64.													11
ndo-China (see also table above)			2020	300	SN	231	342	175 80	247 97	31 22	211		878		223		130
yrla: Beirut			CD	9				1		1						11	
Place	De- cem- lissi	Janu- ary, 1982	ラウル ラウル ラウル ラウル ラウル ラウル ラウル ラウル	March, 1982	April, 1992	May, 1932			Place			Der Per	Janu- ary, 1932	Feb- 1932,	March, April, 1082 1982	Light 1583	May, 1932
hosen. Trance. Treco.	000000	- 110-	900	80 1	50 co	25 co		co (see al	Mexico (see also table above) Morocco. Turkey (see also table above)	ove)	DOOD	96	35.	884	308	100	5

TYPHUS PRVER

TYPHUS PEVER

						13		13	A	Week ended-	ded 1	139	1	1		100	
Place	Feb.	Mar.	Mar.	3-3	April, 1982	1962			May, 1932	932			June, 1932	982		July, 1932	1982
	0, 1804	0, 1804	7, 1902	0	10	8	8	1-	-	21	8		п	18	a		
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kow ktow Gee table below).		64	•		0 1 1						-			-			
Colombia: Cali Coolombia: Cali Coolombia: Cali Egypt: Againatria Beheira		8	ş	•	C4	-	10				-	*0	•		-		
Dakabila Obarbieh		15					- 60			. 8							
Port Said Province Province Greece (see table below). Irish Free State: Roecommon County— Leitrim	\$-	88	£9	112	30	<b>42</b>	8*	F.º	8-	g	8	-83					
Roscommon.  Lithundia (see table below).  Maxico: Maxico City, including municipalities in Federal District.	8	7	-					61		- 10	-	- "	•				
San Luis Potosi D		2-	V.E.H			23		T	T				-	T	-	7	

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER-Continued

TYPHUS FEVER—Continued [C indicates cases; D, deaths, P, present]

Place		June, 1932 July, 1932	18 25 2 9	4		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	•	AAA		ru- March, April, May,	9,017 9,765
Jan.   Fob.   Ant.   April   1992   April		Ju	-	13	24	11	148.2	1	<b>A</b>		
Jan.   Pob.   Mar.   April. 1932   May   Mar.   April.   May   Mar.   April.   May   Mar.   Mar.   May   Mar.   M	-pei	-	28	01		2480	8	Δ.			
Jan.   Pob.   Mar.   April. 1932   May   Pob.   Mar.   April. 1932   May   Pob.   Mar.   April. 1932   May   Mar.   April.   May   Mar.   April.   May   Mar.   April.   May   Mar.   May   May   May   May   Mar.   May	eek en	1932	21	-		201	8 2	A 2		Decem ber. 1931	1, 3
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December Janu - Pebrus - Janu - Janu - Pebrus - Janu - Ja					-	82	~2~8	222			et Rep
December Janu - Pebrus - Janu - Janu - Pebrus - Janu - Ja			30	15		132	\$45	242		lace	st Sovie
December Janu - Pebrus - Janu - Janu - Pebrus - Janu - Ja	bresen	1, 1932	8	69		911	18008	<b>P</b> PP		•	Socialis F. Carr
December Janu - Pebrus - Janu - Janu - Pebrus - Janu - Ja	B, F,	Apri	16	7		98		A 0			urkey
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Place  Diow), with Republics (see table Dass.;  (see table Described to the Dass.)  The Dassem Described to the Dassem Described to the Dassem Described to the Dassem Described to the Dassem								elow).		Janu- ary, 1982	
Place Place (see table below).  c selow).  c below).								e table b		Decembrand Der, 1931	000
Morocco  Palestine Paraguay: Asuncion Portugal: Lisbon Oporto. Chaisa: Tunis  Tunisia: Tunis  Valai  Tunisia: Tunis  Tunisia: Tunis  Tunisia: Tunis  Tunisia: Tunis  Tunisia: Tunis  Tunisia: Tunisia:  Tunisia: Tunisia: Tunisia:  Tunisia: Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia:  Tunisia: Tunisia: Tunisia:  Tunisia: Tunisia: Tunisia:  Tunisia: Tu		Place				9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	ey (see table below).  n of Socialist Soviet Republies (see not South Africa: .  Ape Province .  The Province	aracas (see table below). see table below).	Place	DACADA

VELLOW PRVER

### YELLOW FEVER

	Jan.	Feb.	Mar.							Week	Week ended-	1						
Place	9. P. B.	Mar. 5,	Apr.		April, 1932	1932			May, 1932	1902	1811		June, 1932	932		July,	July, 1982	1
	1982	1932	1932	•	16	8	98	1-	*	12	8		11	18	183	2		2
Bollya 1 Brazil: Bahla State—Esplanda				1		Mari		-			1	12						13
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Santa Teresa (about 56 miles from Victoria). D. Parahyba State.		1		1										11	1		11	
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			-	-														
Cape Coast Tamale Yangi			4-															
		•									1			11	11		11	11
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Indirect reports show cases suspected to have been yellow fever in Southern Bollvia during April, 1932.